

**SOUTHWEST FISHERIES SCIENCE CENTER**  
**FIRST QUARTER REPORT - FY 2005**  
For the Period January 1 – March 31

**Submitted by:** Roger Hewitt, Division Director, Fisheries Resources Division

**Title of accomplishment or milestone:** Research Plan for Estimating Benefits of the West Coast Highly Migratory Species Commercial Passenger Fishing Vessel (CPFV) Fleet

**Current status:** In progress.

**Background information:** West Coast recreational fishing activity directed towards highly migratory species emanates primarily from CPFVs and privately owned vessels departing from the sportfish landings, marinas and launch ramps which dot the southern California coast from LA to San Diego (Highly Migratory Species Fisheries Management Plan, draft, Pacific Fishery Management Council, 2003). The Sportfishing Association of California (SAC) is the major industry organization representing nearly 200 CPFVs operating out of 23 landings from Morro Bay to San Diego. This fleet carries almost 1 million passengers annually to local and Mexican fishing grounds. The fleet and supporting shoreside facilities represent a monetary investment totaling close to \$80 million, with a labor force of about 4,000 persons. In 2000, there were an estimated 876,000 trips taken aboard southern California based CPFVs producing a total catch of 2,941,000 fish, representing 44% and 30% respective increases from 1999 (RecFIN). Approximately 429,000, or 49%, of all southern California based CPFV trips in 2000 accounted for total HMS catches of 99,000 fish, for 3% of the total CPFV catch. This is 12 times the number of trips, and a 21% increase in HMS catch, compared to 1999.

Information from an add-on expenditure survey to the MRFSS in 2000 (Gentner *et al.* 2001) indicates that across all species, and along the entire West Coast, expenditures by participants on marine recreational fishing -- including CPFV, private vessel and shore -- was estimated at \$4.5 billion in 2000. Southern California anglers (residents and non-residents) accounted for the largest share, 38%, followed by Washington anglers, 31%, northern California anglers, 17%, and Oregon anglers, 14%. Estimates of southern California CPFV and private vessel trip expenditures totaled \$205 million in 2000: 62% CPFV and 38% private vessel. Based on the proportions of HMS trips as a share of total recreational trips for CPFV and private vessels, HMS trip expenditures for CPFVs were \$62 million and HMS trip expenditures for private vessels were \$58 million in 2000. In addition to trip expenditures, southern California residents spent \$1.5 billion on fishing equipment (e.g. vessels and tackle) and other semi-durable (e.g. maintenance) and durable (e.g. vacation home) items used primarily for marine recreational fishing.

In Washington, the major port for charter vessels is Westport, which has seven charter offices with an average of fifteen charter vessels that routinely fish for albacore tuna in the summer months. The importance of albacore tuna to this fleet has risen in the last

decade as other fishery opportunities (e.g. salmon and rockfish) have declined. It is difficult to separate the CPFV fishery from the private vessel recreational fishery in Oregon. The vast majority of CPFV HMS fishing activity is centered in Southern California, ranging from Morro Bay to San Diego and extending into Mexican waters; the geographical focus of the project is thus on this area. Such a focus reduces costs and allows a more detailed and intensive study.

**Purpose of Activity:** NMFS science centers and regional offices are asked to provide baseline values of access to recreational fishing, such as through the Highly Migratory Species Fishery Management Plan. In fact, a major acknowledged shortcoming of this plan has been the absence of fundamental information about the value of access for recreational fisheries. Information will also be requested about the effects of changes to various characteristics of the fishing experience on the value of the experience.

The existing MRFSS currently does not provide, with sufficient coverage and detail, socio-economic data for the West Coast highly migratory species fleet necessary to address the changes in economic value and economic impacts of recreational policies as discussed above. The proposed project redresses this current incomplete coverage.

This study is designed to obtain estimates of angler benefits in the West Coast highly migratory species CPFV fishery. The planned procedure is to collect socio-economic data on recreational fishing for highly migratory species in the West Coast CPFV fishery which are needed for statistical estimation of models that yield (1) the value of access to the fishery (what people are willing to pay for the opportunity to go recreational fishing in a particular area) and (2) the marginal value of catching fish (what people are willing to pay to catch another fish). The objectives of this data collection and benefit estimation effort are detailed below.

The expected methodology is to use a nested Random Utility Model (RUM). The RUM methodology would examine the choices of where to fish, what species to target, and other relevant questions for the CPFV HMS fishery. The RUM assumes that each fisher compares all available alternatives and chooses the one yielding the highest level of utility (well being).

The RUM methodology and project is quite flexible in that it can be used to measure costs to anglers of closing specific areas, or to measure the benefits to anglers of improving expected catch rates. The versatility of the model will appeal to policy makers, especially the Pacific Fishery Management Council, who wish to consider the socio-economic impacts of management alternatives.

**Survey/Research Design and Implementation:** The project is to be coordinated by the new HMS recreational economist, Stephen Stohs, and is envisioned as a collaborative effort between NMFS and the CPFV industry, with questionnaire design and pre-testing jointly implemented. The questionnaire will be administered by the CPFV fleet, with individual vessel IDs held by the CPFV. Stohs will only receive an ID that allows him to keep track of the data and to ask the CPFV representative to double-check questions, etc.

(This confidentiality approach was followed by the SWFSC La Jolla for commercial surveys of the drift gillnet, albacore troll, longline, and coastal pelagic fleets and helped to significantly increase the quality of the data and the response rate.) The survey will follow the Neyman stratified random sampling approach, following the commercial fleet surveys.

The questionnaires and sampling methods will be developed by Stohs in close cooperation with the CPFV fleet through their industry representatives, such as Mr. Robert Fletcher (currently chair of the HMS Advisory Sub-Panel to the Pacific Fishery Management Council) and Mr. Don Hansen (currently a member of the Pacific Fishery Management Council). Professor Richard Carson, Department of Economics, University of California San Diego, will provide consulting support for the project, and the survey results will be analyzed by Stohs.

**Significance of accomplishment:** The Random Utility Model developed by this project will allow researchers to predict the impact on anglers due to changes in catch rates or in bag limits, or due to seasonal or area closures. The collected socio-economic information and analytical results will be used to satisfy requirements under the National Environmental Policy Act, the Regulatory Flexibility Act, the Magnuson-Stevens Fishery Conservation and Management Act, the Endangered Species Act, and other applicable federal laws through the Highly Migratory Species Fishery Management Plan, Environmental Impact Statements, and so forth.

**Expected Time Frame:** Completion by year-end 2005. This time frame allows the new HMS recreational economist an opportunity to get established, develop industry, government, and academic contacts, design and field test a sampling frame and instrument, administer (either directly and/or through industry) the survey, and compile and analyze the data.

**Problems:** None thus far.

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